

Designing Web Surveys for Different Screen Sizes and Operating Systems: What Respondents are Using.

Robert Tortora PhD, ICF

2015 FCSM Research Conference, Washington D.C



Overview

Background

Briefly describe three web surveys

Data includes whether completed or not, age, gender, race, ethnicity, device, browser, screen height, width and diagonal

Statistics by survey

Logistic regression by survey

Mode Effects

In the old days in person, telephone and mail

In the new days in-person, telephone, mail, web

web = devices - 3, operating systems – 13+ and
browsers – 5+

Optimize for mobile?

Present constant or near constant stimulus to
reduce the potential for introducing measurement
error

Three surveys

■ Extended Education Probability Survey

listed web probability survey of university extended education enrollees

state level survey

n = 1880

■ Large Urban Area Non-Probability Survey

Combination of two non-probability web surveys conducted at the same time

n = 1409

■ Youth Probability Survey

2nd wave of a panel

State level data

Youth in 6th, 8th and 10th Grade

n = 3071

Some Summary Statistics

	Started But Did Not Complete	Completed Survey
Extended Education Survey	25.5%	74.5%
Urban Non-Probability	17.4%	82.6%
Youth Survey	49.4%	50.6%

Gender	Unknown	Male	Female
Extended Education Survey	17.8%	23.3%	58.9%
Urban Non-Probability		46.5%	53.5%
Youth Survey	8.9%	39.4%	51.7%

Some Summary Statistics - Age

Extended Education	
Age Group	Percent
18-25	3.0%
26-40	49.5%
41-55	32.9%
56-70	11.0%
Over 70	3.6%
Total	100.0%
Missing	18.0%

Urban Non-Probability	
Age Group	Percent
<18	0.2%
18-25	8.8%
26-40	28.3%
41-55	27.7%
56-70	24.9%
Over 70	10.1%
Total	100%
Missing	7.0%

Youth	
Age	Percent
10	0.1%
11	15.6%
12	11.9%
13	19.5%
14	20.8%
15	18.7%
16	9.6%
17	2.8%
18	0.5%
19	0.4%
Total	100%
Missing	8.8%

Some Statistics – Race and Ethnicity

Race	White	African American	Multi-racial	Other Single Race
Extended Education Survey	42.7%	4.0%	2.1%	51.1%
Urban Non-Probability	72.4%	8.2%	1.7%	17.7%
Youth Survey	51.3%	16.6%	1.9%	30.2%

Ethnicity	Non-Hispanic	Hispanic
Extended Education Survey	69.1%	30.9%
Urban Non-Probability	68.6%	31.4%
Youth Survey	64.2%	35.8%

What are participants using? Devices, Operating Systems, Browsers & Screen Dimensions

— Devices

	Extended Education Survey	Urban Non- Probability	Youth Survey
Mobile	35.9%	19.5%	74.3%
Tablet	6.5%	8.9%	7.8%
Laptop/Desktop	57.6%	71.5%	17.9%

— Operating Systems

	Extended Education Survey	Urban Non- Probability	Youth Survey
Unknown OS	3.8%	6.7%	4.7%
iPhone/iPod	25.6%	10.3%	44.5%
Linux	11.6%	11.5%	30.9%
Mac	17.9%	15.7%	3.2%
Windows	41.0%	55.8%	16.8%

— Browse

What are participants using? Devices, Operating Systems, Browsers & Screen Dimensions

— Browsers

	Extended Education Survey	Urban Non-Probability	Youth Survey
Unknown browser	0.6%		0.3%
Android	0.9%	0.9%	4.4%
BlackBerry		0.1%	0.0%
Chrome	42.9%	42.9%	37.1%
Firefox	9.5%	16.0%	1.3%
Internet Explorer	9.7%	14.5%	5.5%
iPad	3.0%	6.5%	4.4%
iPhone	24.0%	10.0%	43.0%
iPod	0.3%	0.1%	1.0%
Opera	0.1%	0.4%	
Safari	8.7%	8.5%	2.0%
SeaMonkey		0.1%	
Windows Phone	0.2%	0.1%	1.0%

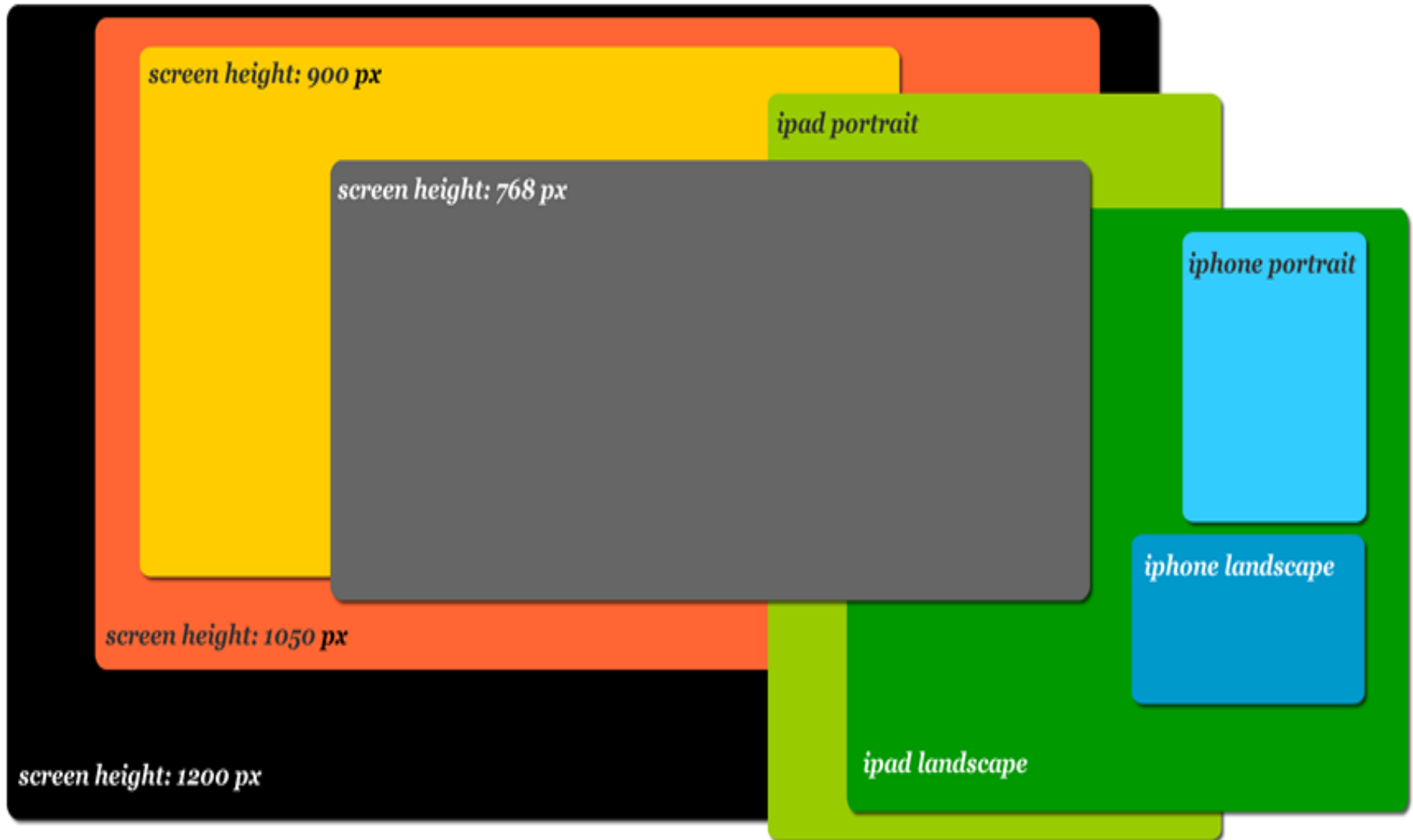
What are participants using?

Screen Dimensions

- **Two scenarios - what is the most important: height or width of the available area in the browser?**
- **Scenario one: the height is more important**
 - you want to fit the screen without the need to scroll down (no vertical scrollbar)
 - you want to be sure a particular image is visible (or text can be read) without using the scrollbar (but the scrollbar is available)
- **Scenario two: the width is more important**
 - You want to fit your screens within the available width, and you don't care about the height because there's a scrollbar when needed.

Screen Height and Width in Pixels		
screen height	screen width	in use (2014)
768	1024	38%
800	1280	8%
900	1440	14%
1024	1280	8%
1050	1680	5%
1080	1920	14%
1200	1920	3%
1440	2560	10%

Usable site space in browsers, based on the screen heights: a visual comparison



What are participants using? Screen Dimensions

— Screen Dimensions

Screen Dimensions		Available Screen Height	Available Screen Width	Available Screen Diagonal
Extended Education Survey	Mean	775.6	1113.5	1384.9
	Std. Error	4.7	15.1	13.9
Urban Non-Probability	Mean	827.1	1256.8	1525.1
	Std. Error	5.5	15.5	14.7
Youth Survey	Mean	706.1	720.4	1042.7
	Std. Error	5.1	13.5	12.8

What are the drivers of completing a web survey?

Dependent variable

0 = Started but did not complete

1 = Completed

Independent variables

Gender, Age, Race, Ethnicity

Device, Operating System, Browser, Screen Height, Width and Diagonal

Extended Education Survey

	B	S.E.	Wald	df	Sig.	Exp(B)
Gender			10.979	2	0.004	
Unknown	-0.675	1.116	0.366	1	0.545	0.509
Male	-0.651	0.198	10.836	1	0.001	0.521
Age			29.758	4	0	
18 - 25	0.41	0.821	0.249	1	0.618	1.506
26 - 40	1.538	0.832	3.422	1	0.064	4.657
41 - 55	1.434	0.871	2.71	1	0.1	4.196
56 - 70	2.415	1.292	3.494	1	0.062	11.186
device			0.264	2	0.876	
Smartphone	-0.362	0.705	0.264	1	0.607	0.696
Tablet	-0.117	0.693	0.028	1	0.866	0.89
Available Screen Diagonal	0.005	0.009	0.321	1	0.571	1.005
Available Screen Height	-0.005	0.006	0.841	1	0.359	0.995
Available Screen Width	-0.003	0.007	0.166	1	0.683	0.997
Browser			6.737	5	0.241	
Chrome	0.227	0.356	0.408	1	0.523	1.255
All Others	1.928	0.955	4.078	1	0.043	6.877
Firefox	-0.251	0.428	0.342	1	0.558	0.778
Internet Explorer	0.666	0.571	1.358	1	0.244	1.946
iPhone	0.184	0.454	0.164	1	0.685	1.202
Race			0.864	2	0.649	
White	0.175	0.208	0.708	1	0.4	1.191
African American	-0.109	0.518	0.044	1	0.833	0.897
Ethnicity(1)	-0.088	0.211	0.172	1	0.678	0.916
Constant	1.92	1.089	3.11	1	0.078	6.818

Large Urban Non-Probability

	B	S.E.	Wald	df	Sig.	Exp(B)
Female	0.205	0.245	0.7	1	0.403	1.228
Age			10.913	4	0.028	
18 - 25	0.672	0.575	1.37	1	0.242	1.959
26 - 40	1.054	0.428	6.069	1	0.014	2.87
41 - 55	0.955	0.392	5.938	1	0.015	2.6
56 - 70	0.172	0.333	0.267	1	0.605	1.188
device			1.385	2	0.5	
Smartphone	-0.751	0.818	0.844	1	0.358	0.472
Tablet	0.322	0.648	0.247	1	0.619	1.38
Available Screen Diagonal	0	0.01	0	1	0.984	1
Available Screen Height	-0.001	0.006	0.009	1	0.923	0.999
Available Screen Width	0	0.008	0.001	1	0.974	1
Browser			8.411	5	0.135	
Chrome	0.598	0.425	1.981	1	0.159	1.819
All Others	-0.25	0.76	0.108	1	0.742	0.779
Firefox	0.234	0.456	0.263	1	0.608	1.263
Internet Explorer	-0.371	0.433	0.736	1	0.391	0.69
iPhone	0.49	0.74	0.438	1	0.508	1.633
Race			7.921	2	0.019	
White	-1.14	0.489	5.441	1	0.02	0.32
African American	-0.098	0.761	0.017	1	0.898	0.907
Ethnicity(1)	-0.307	0.304	1.025	1	0.311	0.735
Constant	3.614	1.028	12.364	1	0	37.121

Youth Survey

	B	S.E.	Wald	df	Sig.	Exp(B)
Gender			0.912	2	0.634	
Gender(1)	-21.057	28418.699	0	1	0.999	0
Gender(2)	0.077	0.081	0.912	1	0.34	1.081
Age			12.806	9	0.172	
10	-1.845	1.449	1.62	1	0.203	0.158
11	-0.664	0.717	0.858	1	0.354	0.515
12	-0.924	0.72	1.647	1	0.199	0.397
13	-0.919	0.716	1.65	1	0.199	0.399
14	-0.835	0.715	1.363	1	0.243	0.434
15	-0.817	0.715	1.303	1	0.254	0.442
16	-1.03	0.721	2.041	1	0.153	0.357
17	-0.608	0.747	0.664	1	0.415	0.544
18+	-1.89	0.914	4.274	1	0.039	0.151
device			6.617	2	0.037	
Smartphone	-0.617	0.348	3.144	1	0.076	0.54
Tablet	0.11	0.292	0.142	1	0.706	1.116
Available Screen Diagonal	-0.009	0.005	2.873	1	0.09	0.991
Available Screen Height	0.006	0.004	2.485	1	0.115	1.006
Available Screen Width	0.007	0.004	3.156	1	0.076	1.007
Browser			14.809	5	0.011	
Chrome	-0.468	0.373	1.573	1	0.21	0.626
All Others	-0.646	0.407	2.522	1	0.112	0.524
Firefox	-0.728	0.51	2.037	1	0.153	0.483
Internet Explorer	-0.121	0.423	0.082	1	0.775	0.886
iPhone	-0.8	0.387	4.268	1	0.039	0.45
Race			1.375	2	0.503	
White	-0.046	0.1	0.21	1	0.647	0.955
African American	0.09	0.135	0.437	1	0.509	1.094
Ethnicity(1)	-0.081	0.098	0.692	1	0.406	0.922
Constant	2.169	0.904	5.755	1	0.016	8.746

Summary and Conclusions

- To be added

Thank you.

